



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,215	01/13/2005	Franz Filzmoser	FILZMOSER ET AL - 1 PCT	2756
25889	7590	05/14/2008	EXAMINER	
COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			ZHAO, XIAO SI	
			ART UNIT	PAPER NUMBER
			4172	
			MAIL DATE	DELIVERY MODE
			05/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,215

Applicant(s)

FILZMOSER ET AL.

Examiner

XIAO ZHAO

Art Unit

4172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/28/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-41 is/are pending in the application.
- 4a) Of the above claim(s) 36-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/13/2005, 7/5/2006, 10/2/2006, 3/9/2007, 6/18/2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 22-41 are pending.

Claims 22-35 are under examination, claims 36-41 are subjected to final restriction and withdrawn from examination.

Election acknowledged

1. The requirement for election/restriction sent on 4/9/2008 to the Applicant had a typographical error in that Group I should contain claims 22-35 while Group II should contain claims 36-41. The missing claims are still pertaining to each group in terms of method and device so the same reasons will apply to the missing claims as well. Applicant's election with traverse of claims 22-35 in the reply filed on 4/28/2008 is acknowledged. The traversal is on the ground(s) that the method claims of 22-35 (Group I) and the device claims of (Group II) have a unitary connection in terms of problem and solution and are connected to each other in such a way that they realize a single general inventive idea. This is not found persuasive because a lack of unity a priori still exists between Group I and Group II due to no subject matter common to all groups. In addition, this can be seen from Hallman et al. (US 5820932) that a method for producing plate does not require the device of Group II and thus further proving a lack of unity between the two groups. The search burden argument does not apply to this 371 application since the Examiner does not have to prove search burden for a proper restriction in a 371 application. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 22, 24-27, 29-31, and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Kakuta et al. (US 6283031 B1) in view of Crump (EP 0426363 A2).

Claims 22, 24-27, 29-31, and 35 are drawn to a method for producing a stamp or a printing plate with a surface containing the printing pattern which is produced by applying a liquid and hardenable material in layers on a substrate through print technology wherein additives are admixed to said material prior to printing procedure, the surface-forming material is heated before or during the printing procedure, the hardening of the surface-forming material is accelerated between the layer-wise application thereof, the hardening is accelerated by cooling, the amount of material

applied can be measured and reduced from layer to layer, the material is a polymer, and the substrate is plastic.

Kakuta et al. teach a method for producing a printing plate which comprises a substrate and ink dots formed on the substrate by melting a solid ink, jetting the melt onto the substrate which will harden using an ink-jet printer (col. 3, 9-19 and col. 8, 62-64). Additives (vehicle compound) are admixed to the ink dots prior to printing (col. 6, 23-25 and col. 8, 29-32). The ink dots are heated during or after printing and the substrate can be pre-heated (col. 4, 60-63). Even though Kakuta et al. did not mention pre-heating the ink dots, it is understood by one ordinarily skilled in the art at the time of the invention that pre-heating the dot is a routine optimization that can be incorporated to allow better adhesiveness, optimization of the shape, and overall quality of the print (col. 4, 60 and col. 5, 8). The amount of ink to be jetted can be controlled electrically (col. 4, 37-38). The surface-forming material can be a polymer (col. 6, 37-44 and 29-31). Plastic films can be used as a substrate (col. 9, 31-33, and 34-35). Kakuta et al. fails to teach applying a liquid and hardenable material in layers, accelerating hardening between the layer-wise application thereof in which acceleration is done by cooling, and the amount of material applied is reduced from layer to layer.

Crump teaches producing a 3D object by depositing repeated layers of solidifying material in which the said material is in a fluid state before solidifying (col. 4, 4-15), the material will solidify substantially instantly upon cooling which will result in an article-forming process as multiple layers are discharged, solidified, and built-up (col. 5, 26-28). Even though Crump does not teach reducing the material from layer to layer it is

obvious to one ordinarily skilled in the art at the time of the invention that 3D objects can have various shapes and thus, if an object has a reducing surface area or volume from bottom to top, it would require reducing the material from layer to layer until the final desired shape is conformed. Furthermore, it would be obvious to one ordinarily skilled in the art at the time of the invention that all of the aforementioned Crump teachings can be combined with Kakuta et al.'s teachings since both methods uses the same steps of jetting a fluid onto a substrate and let it solidify/harden. By incorporating Crump's teachings into Kakuta et al.'s teachings, it would enable the method to create 3D objects instead of 2D print plates which will increase the industry applicability and utility of the method. In addition, cooling the material to accelerate its hardening will be able to speed up the process and increase the efficiency of the system.

5. Claims 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakuta et al. (US 6283031 B1) in view of Crump (EP 0426363 A2) and further in view of Hallman et al. (US 5820932).

Claims 23 and 28 are drawn to forming a bonding agent layer on the substrate before the surface-forming material is applied, and affecting the hardening by spraying with hardening agents.

Kakuta et al. in view of Crump teach all the limitations of claim 22 but fails to teach forming a bonding agent layer on the substrate before the surface-forming material is applied, and affecting the hardening by spraying with hardening agents.

Hallman et al. teach pre-coating the plate (substrate) with reactants and initiators to initiate polymerization upon deposition of polymer droplets to the printing plate to

achieve a crosslinked resin (col. 3, 15-29). The ink jet fluid also comprises a hardening agent (col. 5, 3-18). Even though Hallman does not teach spraying the hardening agent, it is obvious to one ordinarily skilled in the art that the same problem and functionality was recognized by the prior art to harden the polymer solution with a hardening agent and thus, spraying the hardening agent is an obvious modification to incorporating the hardening agent into the ink jet fluid since both solves the same problem. It would have been obvious to one ordinarily skilled in the art at the time of the invention that all of the aforementioned Hallman et al. teachings can be used with Kakuta et al. in view of Crump so a better adhesiveness can be achieved by pre-coating the substrate with a bonding layer and that a hardening agent can help accelerate the hardening process to increase the efficiency of the method.

6. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kakuta et al. (US 6283031 B1) in view of Crump (EP 0426363 A2) and further in view of Hanisco (US 5731033) and Petersen (US 6892637 B2).

Claim 32 is drawn to the surface-forming material being a liquid caoutchouc.

Kakuta et al. in view of Crump teach all the limitations of claim 22 but fails to teach the surface-forming material being a liquid caoutchouc (rubber).

Hanisco teaches melting a rubber compound at a very high temperature, pouring it into the mold, and curing the rubber compound to a solid rubber compound (col. 1, 24-29, and col. 4 20-30). It would have been obvious that liquid caoutchouc, or melted rubber, can be used as a surface-forming material for a stamp because rubber can be used repeatedly for applying various inks.

7. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakuta et al. (US 6283031 B1) in view of Crump (EP 0426363 A2) and further in view of Petersen (US 6892637 B2).

Claims 33-34 are drawn to the surface-forming material being a porous material and that the substrate is a glass plate

Kakuta et al. in view of Crump teach all the limitations of claim 22 but fails to teach the surface-forming material being a porous material and that the substrate is a glass plate

Petersen teaches using a porous soft resin for forming the stamp (col. 4, 63-66), and that the substrate can be a clear glass (col. 5, 5-8). It would have been obvious to one ordinarily skilled in the art at the time of the invention that porous soft resin can be used for forming the stamp since permeable (porous) material allows ink to pass through the stamping member so the ink is held within the stamp and allowed to gradually ooze onto the stamping member which eliminates the need for a separate stamp inkpad (col. 1, 27-33). Furthermore, it would have been obvious to one ordinarily skilled in the art at the time of the invention that using glass as a substrate allows for great stamp production quality since glass has a low thermal expansion and a high flatness which will ensure the uniformity of the stamp.

Conclusion

Claims 22-35 are rejected.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO ZHAO whose telephone number is (571)270-5343. The examiner can normally be reached on Monday to Friday 7:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xiao S Zhao/
Examiner, Art Unit 4172

/Vickie Kim/
Supervisory Patent Examiner, Art Unit 4172